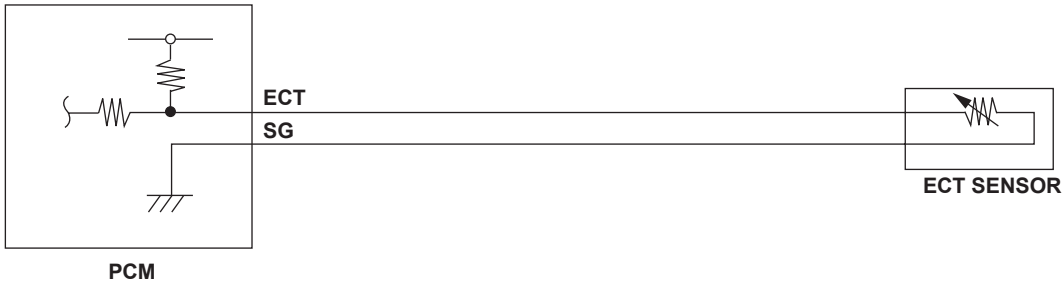
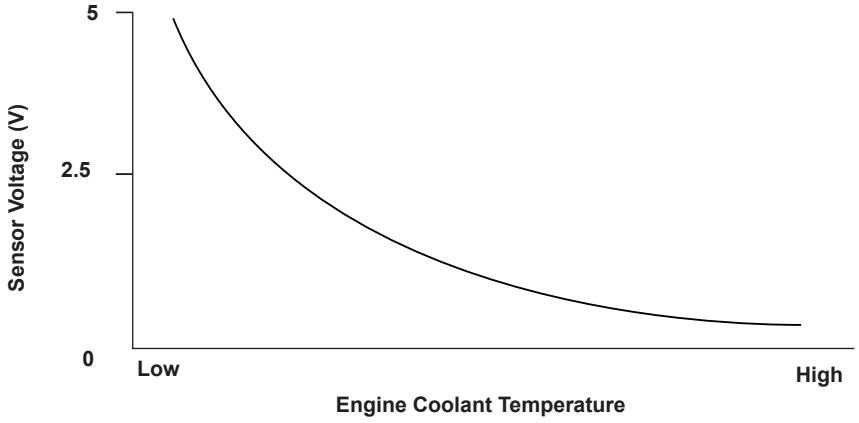
Advanced Diagnostics

DTC P0117: Engine Coolant Temperature (ECT) Sensor Circuit Low Voltage



P0116-9604

Engine Coolant Temperature (ECT) Sensor Output Voltage



P0116-9672

General Description

The engine coolant temperature (ECT) sensor is used for the air/fuel ratio feedback control, the ignition timing control, and the idle speed control, and other functions. The ECT sensor resistance varies depending on the engine coolant temperature. As the engine coolant cools, the ECT sensor resistance increases, and the powertrain control module (PCM) detects a high signal voltage. As the engine coolant warms, the ECT sensor resistance decreases, and the PCM detects a low signal voltage. If the ECT sensor output voltage is less than a set value when the engine coolant temperature is high, the PCM detects a malfunction and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	2 seconds or more
DTC Type	One drive cycle, MIL ON

Enable Conditions

Condition	
Ignition switch	ON
No active DTCs	ECT

Malfunction Threshold

The output voltage from the ECT sensor is 0.08 V or less for at least 2 seconds.

Diagnosis Details

Conditions for illuminating the MIL
When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored in the PCM memory.

Conditions for clearing the MIL
The MIL will be cleared if the malfunction does not recur during three consecutive trips in which the diagnostic runs.
The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.